

Figure 1 shows the typical \log_{10} of the mean of the number of bacteria per gram of soil versus time for the three different temperatures. The curves show that the number of bacteria in the soil decreases over time, and the rate of decrease is higher at higher temperatures. The curves are fitted with a first-order kinetic model, and the parameters of the model are listed in Table 1. The model parameters are the initial number of bacteria (N_0), the rate constant (k), and the half-life ($t_{1/2}$). The half-life is the time required for the number of bacteria to decrease by half. The half-life is inversely proportional to the rate constant. The half-life is also inversely proportional to the temperature. The half-life is 1.5 days at 10°C, 0.5 days at 20°C, and 0.2 days at 30°C. The half-life is 0.1 days at 40°C. The half-life is 0.05 days at 50°C. The half-life is 0.02 days at 60°C. The half-life is 0.01 days at 70°C. The half-life is 0.005 days at 80°C. The half-life is 0.002 days at 90°C. The half-life is 0.001 days at 100°C. The half-life is 0.0005 days at 110°C. The half-life is 0.0002 days at 120°C. The half-life is 0.0001 days at 130°C. The half-life is 0.00005 days at 140°C. The half-life is 0.00002 days at 150°C. The half-life is 0.00001 days at 160°C. The half-life is 0.000005 days at 170°C. The half-life is 0.000002 days at 180°C. The half-life is 0.000001 days at 190°C. The half-life is 0.0000005 days at 200°C. The half-life is 0.0000002 days at 210°C. The half-life is 0.0000001 days at 220°C. The half-life is 0.00000005 days at 230°C. The half-life is 0.00000002 days at 240°C. The half-life is 0.00000001 days at 250°C. The half-life is 0.000000005 days at 260°C. The half-life is 0.000000002 days at 270°C. The half-life is 0.000000001 days at 280°C. The half-life is 0.0000000005 days at 290°C. The half-life is 0.0000000002 days at 300°C. The half-life is 0.0000000001 days at 310°C. The half-life is 0.00000000005 days at 320°C. The half-life is 0.00000000002 days at 330°C. The half-life is 0.00000000001 days at 340°C. The half-life is 0.000000000005 days at 350°C. The half-life is 0.000000000002 days at 360°C. The half-life is 0.000000000001 days at 370°C. The half-life is 0.0000000000005 days at 380°C. The half-life is 0.0000000000002 days at 390°C. The half-life is 0.0000000000001 days at 400°C. The half-life is 0.00000000000005 days at 410°C. The half-life is 0.00000000000002 days at 420°C. The half-life is 0.00000000000001 days at 430°C. The half-life is 0.000000000000005 days at 440°C. The half-life is 0.000000000000002 days at 450°C. The half-life is 0.000000000000001 days at 460°C. The half-life is 0.0000000000000005 days at 470°C. The half-life is 0.0000000000000002 days at 480°C. The half-life is 0.0000000000000001 days at 490°C. The half-life is 0.00000000000000005 days at 500°C. The half-life is 0.00000000000000002 days at 510°C. The half-life is 0.00000000000000001 days at 520°C. The half-life is 0.000000000000000005 days at 530°C. The half-life is 0.000000000000000002 days at 540°C. The half-life is 0.000000000000000001 days at 550°C. The half-life is 0.0000000000000000005 days at 560°C. The half-life is 0.0000000000000000002 days at 570°C. The half-life is 0.0000000000000000001 days at 580°C. The half-life is 0.00000000000000000005 days at 590°C. The half-life is 0.00000000000000000002 days at 600°C. The half-life is 0.00000000000000000001 days at 610°C. The half-life is 0.000000000000000000005 days at 620°C. The half-life is 0.000000000000000000002 days at 630°C. The half-life is 0.000000000000000000001 days at 640°C. The half-life is 0.0000000000000000000005 days at 650°C. The half-life is 0.0000000000000000000002 days at 660°C. The half-life is 0.0000000000000000000001 days at 670°C. The half-life is 0.00000000000000000000005 days at 680°C. The half-life is 0.00000000000000000000002 days at 690°C. The half-life is 0.00000000000000000000001 days at 700°C. The half-life is 0.000000000000000000000005 days at 710°C. The half-life is 0.000000000000000000000002 days at 720°C. The half-life is 0.000000000000000000000001 days at 730°C. The half-life is 0.0000000000000000000000005 days at 740°C. The half-life is 0.0000000000000000000000002 days at 750°C. The half-life is 0.0000000000000000000000001 days at 760°C. The half-life is 0.00000000000000000000000005 days at 770°C. The half-life is 0.00000000000000000000000002 days at 780°C. The half-life is 0.00000000000000000000000001 days at 790°C. The half-life is 0.000000000000000000000000005 days at 800°C. The half-life is 0.000000000000000000000000002 days at 810°C. The half-life is 0.000000000000000000000000001 days at 820°C. The half-life is 0.0000000000000000000000000005 days at 830°C. The half-life is 0.0000000000000000000000000002 days at 840°C. The half-life is 0.0000000000000000000000000001 days at 850°C. The half-life is 0.00000000000000000000000000005 days at 860°C. The half-life is 0.00000000000000000000000000002 days at 870°C. The half-life is 0.00000000000000000000000000001 days at 880°C. The half-life is 0.000000000000000000000000000005 days at 890°C. The half-life is 0.000000000000000000000000000002 days at 900°C. The half-life is 0.000000000000000000000000000001 days at 910°C. The half-life is 0.0000000000000000000000000000005 days at 920°C. The half-life is 0.0000000000000000000000000000002 days at 930°C. The half-life is 0.0000000000000000000000000000001 days at 940°C. The half-life is 0.00000000000000000000000000000005 days at 950°C. The half-life is 0.00000000000000000000000000000002 days at 960°C. The half-life is 0.00000000000000000000000000000001 days at 970°C. The half-life is 0.000000000000000000000000000000005 days at 980°C. The half-life is 0.000000000000000000000000000000002 days at 990°C. The half-life is 0.000000000000000000000000000000001 days at 1000°C.

Fig 2

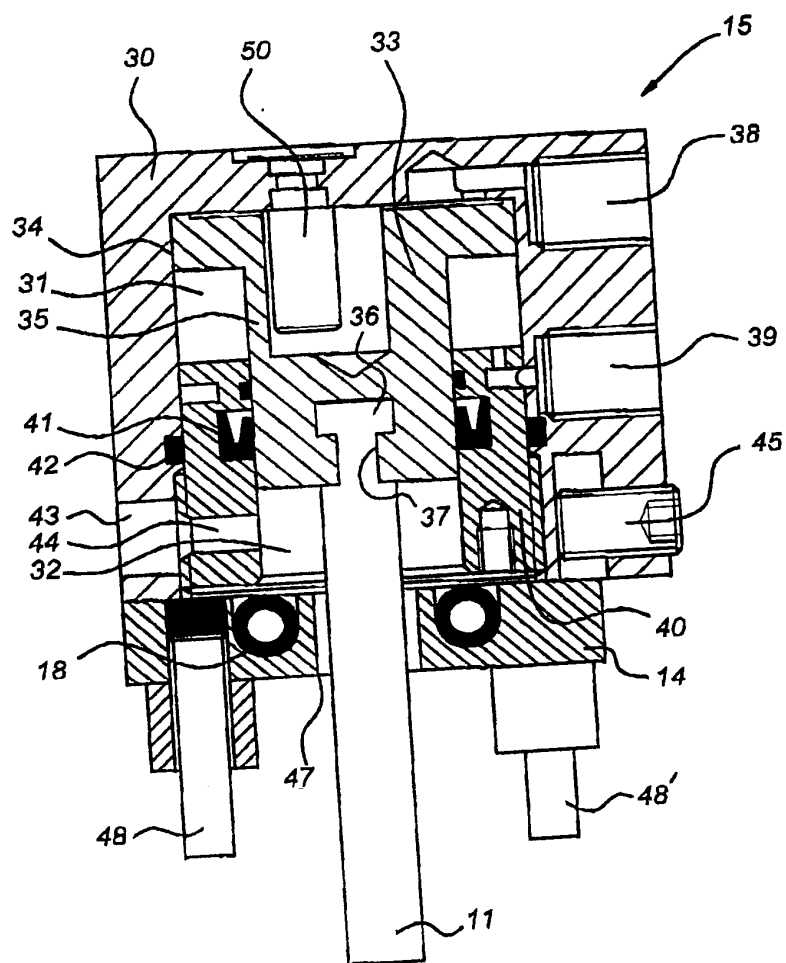


Fig 3

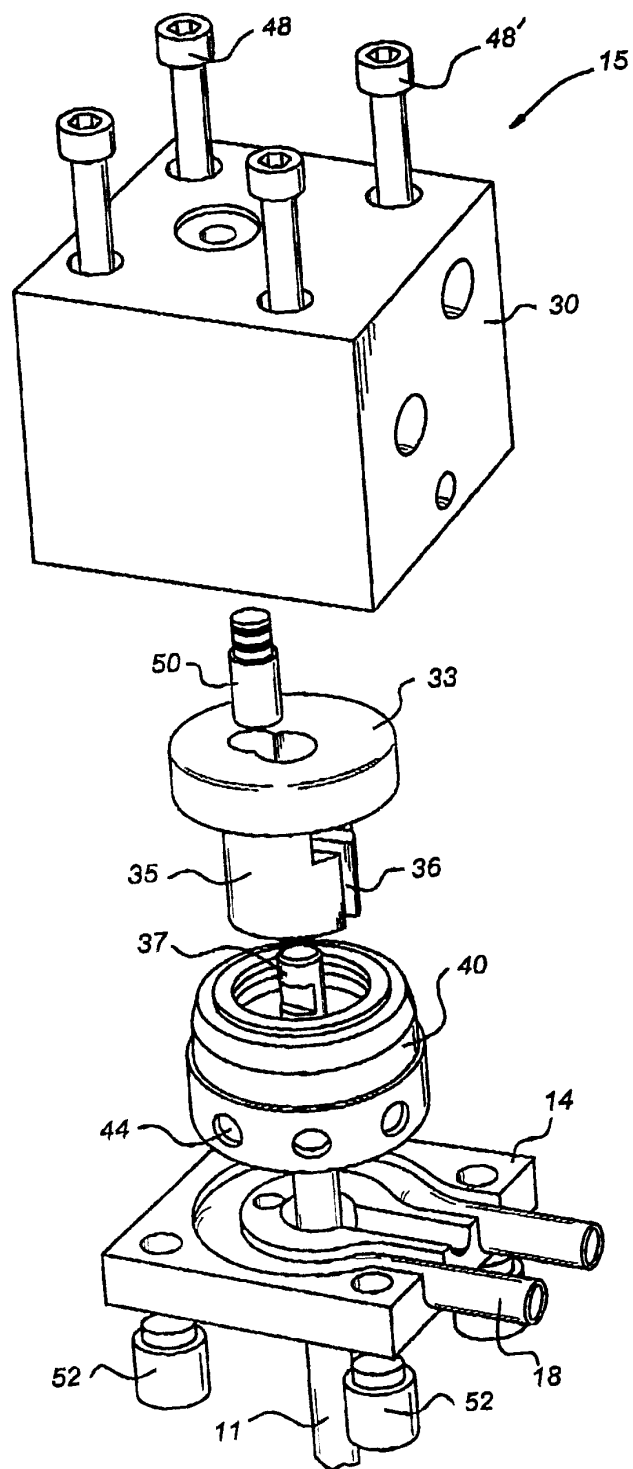


Fig 4

